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CASE OF PULMONARY EMPHYSEMA, COMPLICATED WITH ACUTE DOUBLE PLEURISY, PNEUMONIA, ASCITES, AND ANEURISM OF THE ARCH OF THE AORTA.

[Read before the Boston Society for Medical Observation, and communicated for the Boston Medical and Surgical Journal.]

BY FRANCIS MINOT, M.D.

PHILENIA MATTHEWS, æt. 36, an unmarried American woman, of intemperate and dissolute habits, of tall stature, stout condition, pale complexion, light hair and blue eyes, stated that her mother's family had all been "dropsical," and that she herself had had "dropsy" for fifteen years, and also occasional œdema of the feet in summer time, after hard work. Four years ago, she had difficulty in breathing, with palpitation of the heart, after quick exercise, and was still liable to the same troubles. She had generally menstruated regularly, though she often suffered so much pain during the first two days of her catamenial period as to be obliged to go to bed. Notwithstanding the above symptoms, she described her health as being "always good."

Five weeks ago, she had a hoarse cough, with difficulty of breathing, wheezing, and orthopnœa at night, but without expectoration and without palpitation. These symptoms were increased by going into the open air and by active exercise. On Monday, Dec. 24th, with the exception of some sense of fatigue, she was as well as she had been for three weeks previously; but at 5 o'clock in the afternoon she had a sudden attack of dyspnœa, almost causing suffocation. This gradually increased until 11½, P.M., when I first saw her.

She was then sitting up in bed, dressed, and supported by another woman. Her countenance was very anxious; the face and lips pale; the surface cool and moist; the abdomen distended and fluctuating. The dyspnœa was extreme, especially during expiration, while the inspiration was comparatively easy. The respiration was accompanied by rattling and wheezing. The voice was whispering and very faint, and speech was almost impossible. The

pulse was 160, and very feeble; prostration extreme. Notwithstanding the coldness of the weather, she made signs to be fanned, and to have the door set open. So far as the chest could be examined under the circumstances, it was found to be everywhere resonant on percussion; the respiration was everywhere accompanied with a loud sonorous râle; the sounds of the heart were natural.

External stimulants were immediately applied, but during the half hour which elapsed before medicine could be obtained, she appeared to be sinking. The pulse became impossible to count, and at last almost extinct at the wrist. Her eyes closed, and she became nearly insensible, so that it was impossible to make her swallow. However, soon afterward she opened her eyes, and made an effort to swallow a teaspoonful of the solution of the acetate of ammonia, mixed with syrup of seneca. A blister was applied to the sternum, and large sinapisms to other parts of the chest and to the extremities, and in two hours she was somewhat better.

Dec. 25th.—This morning the dyspnœa was considerably relieved, the patient being able to talk in her natural voice. She had expectorated a large quantity of thick, yellow masses of sputa, floating in a clear, glairy, very viscid fluid. The pulse was 100, the tongue clean, the skin cool; and though much prostrated, the patient was doing well. One dejection.

The chest was very resonant on both sides in front, less so behind. Sonorous and sibilant râles were everywhere heard, and there was a peculiar tubular sound which accompanied the respiration, and which was audible in any part of the room. This sound only ceased with the life of the patient.

She was ordered a mixture of the solution of acetate of ammonia, syrup of seneca and wine of antimony.

During the six following days this patient suffered chiefly from cough, which, occurring in paroxysms, was very troublesome, especially at night. The expectoration continued about the same. The pulse came down to 80; the bowels were regular; there was some appetite; the physical signs remained as before.

On the 3d of January, she had slept well, but suffered much from dyspnœa toward morning, with rattling in the throat. The face was pale. At noon the pulse was 120, very feeble; there was a feeling of much oppression in the trachea, and she was unable to expectorate. In the afternoon, she took an emetic, and, toward night, some solution of the acetate of ammonia, without relief. Sinapisms and a warm pediluvium were ordered, and a quarter of a grain of tartrate of antimony, p. r. n., until vomiting.

At 11, P.M., she had taken three quarters of a grain of tartar emetic without vomiting. The pulse was 136, very feeble; countenance anxious; dyspnœa extreme, threatening suffocation; respiration rattling, and, as on the previous attack (of Dec. 24th),

the inspiration was easy, the expiration difficult. No râles nor souffle were heard in front of the chest. The inspiration was loud, and the chest everywhere sonorous in front. There was much thirst. The tartrate of antimony was ordered to be continued.

Jan. 4th.—During the night she took four grains of tartar emetic without vomiting. Toward morning, she began to expectorate round, tough, yellowish masses, floating in a watery fluid, and at the same time the dyspnœa began to diminish. At the time of the visit there was much prostration. The pulse was 120, less feeble than on the previous evening. The tongue was moist, with a thin whitish coat; the skin was cool; there was less thirst; the mind was clear; the tubular respiration was the same as before. During the day the breathing continued to grow easier.

5th.—No sleep, on account of severe pain in the right side, almost preventing respiration, and increased by the least motion. There was great tenderness at the spot. The tongue was covered with a thick whitish coat; there was much thirst; no appetite; one dejection; urine free. The cough had diminished, as well as the expectoration, which was easier than before, and the dyspnœa had in a great measure disappeared. The pulse varied between 112 and 116, and there were alternations of chills and heat.

Partly on account of the exhausted state of the patient, and partly owing to her filthy condition, it was impossible to obtain any satisfactory results from the exploration of the chest. Eight leeches were ordered to be applied to the right side, and a quarter of a grain of tartrate of antimony to be given every hour.

6th.—The pain was much diminished. Four dejections; less thirst; tongue cleaner; asks for arrow-root. Pulse 114, more full; expectoration less; respiration easier; throat painful. Calomel, gr. ½, three times daily. Paregoric, if diarrhœa.

7th.—Much pain in night, referred to "pit of stomach," especially on motion, or deep inspiration. Countenance pale and waxlike; pulse 120, moderately full and soft; tongue moist, and covered with a white coat; appetite slight; bad taste in mouth; throat better; one dejection; respiration easier, but rattling; no dulness in any part of chest, but sonorous râles everywhere.

8th.—Complains of great pain in the right side, under the axilla, and about opposite the extremity of the sternum. Much tenderness there, but no dulness on percussion, and no absence of respiration; during inspiration, the air enters everywhere with a kind of growl. There has been no cough. Much thirst. Can lie only on the left side. The pain was so severe as to cause her to cry out; but she got some sleep. Pulse 112, full and soft; countenance expressive of pain, but not anxious; cheeks flushed; skin warm and dry; tongue moist, clean on edges, with a thin yellowish coat on centre. Yesterday, she took half a pint of gruel. Dover's powder at night.

9th.—Had, on the whole, less pain in the night. Some troubled sleep. Had much thirst, no headache nor pain in limbs. Now, somewhat pale, coughs less, sputa viscid and adhesive. Less groaning. Intelligence perfect; less anxiety about herself. Pulse 116 to 120; respiration 40; no dejection. Pain constant, but worse during cough. Lies on left side.

Coarse growling crepitation on lower part of left side and back, with some fine crepitation. Percussion resonant. R. Epsom salts. Antimony as before. Lemonade.

10th.—Vomited twice last evening. Pain somewhat less, but more prostration. Pulse 112 to 120, soft, rather feeble. Took much lemonade with relish during the night, and about a pint of arrow-root yesterday. Coughed much during the night, and got but little sleep. Two dejections. Urine free. About three ounces of viscid, somewhat bloody or brownish sputa during the night. In both lower backs, sonorous râles, mingled with fine crepitus.

12th.—No fine crepitus heard. Complains much of sore throat. Teeth feel loose. Pulse same.

13th.—More comfortable. Pulse 100. Tongue cleaning. No dejection. Respiration easy.

14th.—Appears quite bright. Pulse 108. Tongue clean on tip and edges, brownish coat in centre. Coughs more than yesterday. Expectoration more tenacious, less frothy and less purulent than yesterday. Got some sleep in night. No thirst. One dejection.

During the day she continued about the same. Took antimony once or twice, and two calomel pills. At 8½, P.M., after coughing, she suddenly bled profusely from the mouth and nose, and expired almost immediately.

Autopsy, 12 hours *post mortem*.

Abdomen, distended and fluctuating, was not opened.

Thorax.—Lungs did not collapse when the chest was opened. Right lung adherent throughout to costal pleura and to diaphragm. The adhesions to the diaphragm were so firm as only to be separated by dissecting; the other adhesions were soft. On the left side there were recent adhesions of the pleuræ in the lower part of the front and side. Those to the diaphragm were as firm as on the opposite side.

The *lungs* were everywhere emphysematous. The vesicles were easily detected by the naked eye. The pulmonary structure was in other respects generally healthy, except a portion of the lower lobe of the left lung, having the shape of a streak an inch broad, extending round the anterior and lateral portions of the lobe, and penetrating about two inches into the interior of the lung, which portion was very soft and easily broken up.

Just above the bifurcation of the trachea, situated on the inner surface of its anterior wall, was a nipple-like tubercle, its apex projecting into the cavity of the trachea. This protuberance was

hollow, like a thimble, and attached by one point of its base only, the rest having been torn away, thus opening a communication between the trachea and aorta, about a quarter of an inch in diameter. Close to this was a small hole, just admitting a probe, opening also into the aorta, and surrounded by a ridge. The bronchi of the left lung were filled with coagula, extending as far as the diseased portion of the lower lobe. The mucous membrane was stained with blood.

The *heart* was small, healthy, strongly adherent to the diaphragm. The pericardium was everywhere so adherent to the heart, that the two could not be separated. The arch of the *aorta* was dilated so as to be able to contain a small apple, and adhered to the trachea. Its inner membrane was covered with thick, hard, semi-cartilaginous plates, which could be easily scraped up with the nail. Opposite the trachea was an erosion $\frac{5}{16}$ of an inch long by $\frac{3}{16}$ of an inch broad, the floor of which was formed by two rings of the trachea, and the membrane between them, including the hollow protuberance before spoken of, pointing into the trachea.

The abdomen was not opened, but the *liver* was examined by cutting through the diaphragm, to which it was adherent, as no fluid escaped from the abdomen. A section of it appeared healthy.

This case is interesting from the coincidence of a number of distinct diseases and effects of diseases in the same subject, each of which must undoubtedly have had some influence upon the development of the others. Yet it is not easy to trace this influence with much certainty in the present instance; still less so to show that any one of the various pathological conditions above described followed as an inevitable consequence from any other.

We may suppose the pericarditis to have occurred several years ago at least, for the pericardium was firmly adherent to the heart at every part. It appears probable that the patient suffered an attack of pleurisy at the same time, since both lungs were so firmly attached to the diaphragm that they could only be separated by the knife. It seems strange that the patient should not have mentioned any severe illness, such as these affections must have given rise to. As they were not suspected at the time she came under my observation, no questions were put to her with reference to them. It is also worthy of remark that the patient should have enjoyed tolerable health for many years, notwithstanding complete adherence of the pericardium to the heart. The recent pleurisy, as well as the pneumonia, may be traced to the exposure incident to the wretched condition of the patient.

The emphysema, judging from the account of the symptoms given by the patient, had existed at least four years previous to her death, when she began to have difficult respiration and palpitation after active exercise. Was this disease occasioned by the embarrassed action of the heart, owing to an adherent pericardium; or was it caused by the pressure of the water contained in the cavity of the abdo-

men against the diaphragm; or by that of the aneurismal tumor upon the trachea; or, finally, was it an idiopathic affection? Whatever may have been the exciting cause, it is probable that a constitutional tendency to the disease existed, since it by no means follows that a patient with any of the above lesions must also have emphysema. The condition of the heart could hardly account for its existence; there was no valvular disease, no enlargement of the cavities, no thickening of their walls, and, so far as the heart's action could be embarrassed by an adherent pericardium, the result would rather be congestion of the lungs, and not emphysema. We can hardly suppose the aneurismal tumor to have caused the emphysema, since, in the first place, it was not large enough to flatten the trachea at all, and, in the second, it evidently occurred subsequently to the pulmonary affection. The pressure of the fluid contained in the abdomen seems the most reasonable hypothesis by which to account for the enlarged condition of the air-cells. This pressure, by contracting the dimensions of the chest, must have given rise to increased action of the muscles of inspiration, and when we remember the length of time which it had to act (fifteen years, according to the statement of the patient), it is not surprising that it should have produced so important a change in the lungs. The further diminution of space in the chest, caused by the enlargement of the aorta, must have aggravated the disease, though, for the reasons above stated, it could hardly have been concerned in its origin.

The disease of the aorta may have commenced many years previous to death. Perhaps its termination in the formation of aneurism and rupture was hastened by the labored action of the heart. The peculiar noise heard in the throat during life, is explained by the projection of a part of the aneurismal tumor into the trachea. It may appear surprising that the aneurism should not have been diagnosticated before death. But, in fact, there was no symptom by which its presence was indicated. There was no thrill, no blowing sound, no dulness on percussion, and no enlargement, which could lead to the suspicion of the existence of any such tumor in the chest.

The abdominal cavity not having been opened, it is not easy to conjecture what was the cause of the *ascites;* supposing it to have existed for fifteen years, it could hardly have been owing to any lesion discovered in the chest; such having probably existed only from a later period. From the imperfect examination which was made of the liver, it is probable that that organ had no concern in its production. We may conjecture disease of the kidneys; ovarian, or other tumors obstructing the vena cava; or chronic peritonitis; the latter being highly improbable, as no tubercles were found in the lungs.

OIL OF CADE—A TOPICAL APPLICATION IN ECZEMATOUS, IMPETIGINOUS AND SOME OTHER CUTANEOUS ERUPTIONS.

[Read before the Middlesex East Medical Society, March 16th, 1850, and communicated for the Boston Medical and Surgical Journal.]

BY A. CHAPIN, M.D.

In the Boston Medical and Surgical Journal, Vol. LVIII., No. 19, page 379, is an article, translated from the French *Journal de Chimie Médicale*, recommending, on the authority of M. Gibert, purified tar and *oil of cade* as highly efficacious in eczema, impetigo and other vesicular and pustular eruptions. Since its publication there, notices have appeared in several other medical journals, recommending, on the same authority, the *oil of cade*. A case of sycosis on my hands at the time the notice first appeared, which had baffled all my efforts to cure with the ordinary remedies, led me to make use of the article. The result was so satisfactory that I continued to prescribe it, and have thus far found it more than answer my expectations. The cases in which I have prescribed it, with the results, will be presented in detail in their appropriate place.

The *oil of cade (juniperi oleum empyreumaticum)* is not much used or known among ourselves, probably because the tree yielding it does not grow in this country. It is found throughout Europe and Asia. The oil is obtained by slow combustion or distillation, from the red interior wood of the *juniperus oxycedrus*, in the manner of common tar from the pine, and, like that, is an empyreumatic oil. It is, however, more highly empyreumatic than tar, and perhaps may be preferred on that account; and as tar obtained from the various species of pine seems equally remedial, so probably might the *cade* of the juniper, the cedar and the savin, growing among ourselves, prove alike curative, if subjected to the trial.

By turning to the article referred to, in the Boston Medical and Surgical Journal, the *oil of cade*—its principles of operation, its mode of application and its results, in the Hospital St. Louis, Paris, will be seen. M. Gibert is represented as having done more than any other dermatologist to regulate and methodize the employment of resinous and empyreumatic substances in the treatment of cutaneous eruptions. For myself, no part of my practice has been to me more discouraging and more unsatisfactory in its results than the management of some forms of cutaneous disease; and in this have I not the sympathy, begotten by a similar experience, of every gentleman present? Are not the minds of each of us filled with a recollection of similar cases, that have baffled our efforts to heal—that have proved only a mortification to ourselves and an opprobrium to our art? Hence anything, whether new or old, that promises better things for us, will be gladly seized. It will be pleasant, sometimes, amid our failures and our impotence, to be able to say that we have *cured*. The cutaneous diseases

under consideration are usually inflammatory in their commencement, and an antiphlogistic treatment, both internal and external, have been relied on too exclusively. Their efficacy commonly extends only to the point of subduing the phlogosis, and if then persisted in, the diseases are apt to run on into the chronic state. It is here that the empyreumatic remedies should come in, and they will carry on the work effectually, after other measures have become inert. By their astringent and escharotic properties, they "relieve itching, heal excoriations, dispel redness, dry up secretions," and remove scaly incrustations. The cases following will confirm the preceding.

Case I.—A laborer in a saw-mill. He had subacute sycosis, spreading over the chin, along the sides and below the lower jaw. He had been treated for it before he came under my care; and I had prescribed, variously, Fowler's arsenical solution internally, and ointments of mercury, iodine and nitrate of silver lotion, topically, for several months, without much apparent benefit. He was under treatment for it when my attention was first directed to the *oil of cade*, in June of last year. So soon as it could be procured, it was so, for it could not be obtained short of New York city; Mr. Metcalf, apothecary, Tremont St., Boston, obtaining it from there. A liniment, composed of oil of cade, glycerine, āā ʒss., liq. subacet. plumb., ʒ ij., cod-liver oil, ʒ i., m., was prepared, with directions to be rubbed over the diseased surface, and an Asiatic pill to be taken every night. Also, to keep the beard cut short with scissors, and to use no soap on the face. The benefit was immediate; the itching and redness vanished, desiccation rapidly followed, and though several weeks were employed in getting rid of the indurated tubercles, they at length entirely left, and there has since been no return. I have doubted whether the arsenical preparations were of any service in the case. I have used them persistently in former similar cases without benefit, and no progress seemed to have been made here till the oil of cade was used.

Case II.—Last November. A gentleman, seized with eczematous eruption of the left forearm, extending from the hand to the elbow. The redness moderate, limited to the bases of the vesicles; heat, itching and smarting very troublesome at night. The redness increased, and the smarting was aggravated by the liberal scratching practised by the patient. Oil cade, ʒij., liq. subacet. plumb., ʒ i., glycerine, ʒ v., m., was prescribed, and with results more speedy than in Case I. The application of the liniment each night at once assuaged the itching and heat, removed the redness and the eruption, and *cured* the disease in a few days. There has since been no recurrence. This case was mild, and required no previous antiphlogistic measures. The single ounce of liniment was sufficient for the cure.

Case III.—Occurred early in January last. It was an infant of nine months old, having eczema rubrum. The vesicles on inflam-

ed bases, scattered numerously over the head and neck; more thinly over the limbs and body. The child irritable from the itching. Oil cade, ʒ i., liq. plumb. subacet., ʒss., cod-liver oil, ʒvij., m., was rubbed thinly over the system each night, and very soon removed entirely the eruption. No other remedy was used, except a single calomel purgative in starting.

Case IV.—A boy about 9 years of age, brother to Case III., and affected, too, at the same time; having acute eczema, both rubrum and impetigenoid varieties. The eruption was spread somewhat thickly over the body and limbs, prominent vesicles on diffused red patches, much inflamed, a constant and painful heat and itching, much aggravated, and bleeding in spots, from violent and unrestrained scratching. On the inside of the thighs and along the perinæum, the surface was a continuous scale, except where abraded and excoriated by the chafing of the opposite surfaces. The parts were red with inflammation, and he could walk only with great discomfort and pain. Constitutionally he was not much disturbed, excepting by nervous irritability, which was bad enough. A brisk purgative was given him to commence with, to be followed every night with alterative doses of calomel, combined with Dover's powder, to relieve irritability; and every morning cream of tartar and sulphur in laxative quantity, and once or twice a day to wash him over with a lotion of a drachm each of sugar of lead and lac sulphur in a pint of water. At the end of a week, finding the inflammation diminished, oil cade, ʒ i., liq. plumb. subacet., ʒ ss., cod-liver oil, ʒ vij., m., as in the next preceding case, was rubbed over him every night, and the cream of tartar and sulphur continued in the morning. The effect was, as in the former cases, immediate improvement, rapid and quick recovery. At the end of two months, the father called, saying that his boy was again as bad as before. He was not, however, so bad as at first. There was but slight eruption on the body, the disease was mostly limited to the inter-femoral region, and was far less violent there. They had used up the liniment, and, I think, had stopped too soon. Having exhausted my supply of *cade*, a liniment of tar, ʒ i., lard oil, ʒvij., was prescribed, to be used as before; cream of tartar and sulphur in the morning. The effect was as before, and now, at the end of two weeks, he *seems well*. There is no appearance of eruption remaining. I however have directed occasional anointings to the parts most affected, to establish the *cure*.

Case V.—Was called, Feb. 5th, to a child from two to three years old, with impetigo larvalis, familiarly known as crusta lactea. The whole hairy scalp was covered with a thick, yellowish-gray incrustation of scab, which extended around and below the ears, and somewhat on the face and down the back of the neck. Scattering pustules on inflamed bases were spread over the remaining portions of the face and neck. Like the preceding, it was a severe case. A bread-and-milk poultice was directed to be

applied to the scalp for two or three successive nights, and to wash the part in the morning, to clear away the scab; then apply oil of cade, ʒ ss.; extract of lead, ʒ ii.; cod-liver oil, ʒ x.; to be rubbed over one side of the head and neck, every night, till better, then take the other side; at the same time giving alterative doses of calomel at night, for a week or two; and cream of tartar and sulphur, continuously, in the morning. Here, too, the effect was speedy and beneficial; desiccation at once commenced; the redness disappeared; and now, at the end of six weeks, the child is *nearly well*—no eruption remains on the face or neck, and very little scab on the head. This case I have treated with much watchfulness and care—having only a portion of the diseased surface anointed at a time, lest determination to the brain should ensue from a too general and sudden repulsion of the eruption. The child is of a low Irish family, and did not improve as fast as if the parents could have cöoperated more intelligently.

Case VI.—A child three years of age, with congenital ichthyosis. The skin over the body and limbs of a dirty hue, thick and rough—covered with furfuraceous scales; the itching at times troublesome, as also the dryness and harshness of the skin. The general health unimpaired. The disease is generally considered incurable, when congenital, and this case has been long under treatment. I commenced last fall, and prescribed for it Fowler's arsenical solution, keeping along with it until now, excepting an interval of some weeks, when it took syrup of sarsaparilla and iodide of potassium. About two months ago, *oil of cade*, according to the formula in Case III., was commenced, and with marked effect. The scales rapidly desquamated, the skin became soft and smooth, and at present is only covered, partially, with small patches of a slightly shining and pearly lustre. It is quite possible that, on suspending the topical application, the eruption may return. The present improved state will, however, compensate for all the labor bestowed in effecting it; and it is of much consequence to possess a remedy which may control it, when becoming troublesome.

The foregoing cases, as is perceived, are mostly of recent origin, and have readily succumbed to the remedies. M. Gibert has succeeded in curing eruptive diseases of several years standing, with the *oil of cade*, after they had resisted all other measures for relief. Purified tar may perhaps, in the general, do as well, as appeared in Case IV., and is mainly relied on in the Hospital St. Louis. My experiments have been with the *cade*, and it has satisfied me better than *tar* has ever done, perhaps because I have managed it better.

The best excipient for it is glycerine, being emollient in its nature, not greasy, and is easily washed off with water. The best formula is perhaps that used in Case II.: R. Oil cade, ʒij.; glycerine, ʒv.; ext. lead, ʒi. M. The latter, the liq. plumb. subacet.,

may be omitted if there is not much inflammation. To give the mixture more consistence, as may sometimes be desired, starch or arrow-root, pulverized, may be stirred in till it becomes a thick paste or pomade. If one part of arrow-root be mixed with eight parts of glycerine, and carefully heated, stirring it well at the time, the result will be an elegant jelly, forming a suitable excipient for *cade, tar*, and some other articles, which for delicacy and neatness cannot be surpassed. This jelly, or plasma, as it has been called, may be seen at Mr. Metcalf's, or may be made *pro re nata*. When a large surface is to be anointed, a cheaper ingredient than glycerine may be desired; cod-liver oil, almond oil or *lard oil* will do well. The latter I have used, and consider equal to the others. It is much cheaper. The *oil of cade* may be mixed with either of the oils mentioned, in proportion of one or two parts to eight parts of oil.

RESECTION OF THE KNEE-JOINT.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS.—As resection of the knee-joint is not of every day occurrence, a brief description of an operation, which has resulted in a perfect attainment of the object sought after, a serviceable limb, may not be uninteresting to your readers.

The patient, L. G., a resident of Pittsburg, Pa., is about 19 years of age and of a strumous diathesis. About six years ago he received a wrench in his right knee, and, as a consequence upon this accident, inflammation set in and complete bony anchylosis was the result, the leg being fixed at nearly a right angle with the thigh. Since, in this condition of things, the limb was of no possible service in locomotion, he was desirous that something should be done for his relief, and accordingly placed himself under my care. On the 13th of January, I performed the following operation, in the presence of a number of medical gentlemen. The patient was placed with the hips resting upon the edge of a bed, and the lower limbs supported by chairs. Chloroform was then administered, and, when the patient was fully under its influence, an incision six inches in length was made on each side of the joint, parallel with the axis of the limb, and beginning about two inches above the condyles of the femur. These incisions were then united by a third, which passed across the front of the limb over the tuberosity of the tibia, and the upper flap being dissected off, the joint was exposed. As the patella was firmly united to the other bones, it was removed, and then, a wedge-shaped piece was taken from the femur and tibia by means of the saw; the tendons of the flexors of the thigh were divided in order to allow the straightening of the limb, and it was extended. It was found, however, that the first piece removed did not permit a sufficient

amount of extension, and a second slice was removed. The bones were then placed in apposition, and the integuments secured by interrupted sutures. The limb was then placed upon a properly padded splint, and the wound dressed with cold water. The patient was under the influence of chloroform about an hour.

Nothing untoward occurred during the after treatment, and he was enabled to walk, with the aid of crutches, five weeks after the operation, and now (April), he goes without them, having a serviceable limb, about three-fourths of an inch shorter than the other, and slightly flexed, as was intended at the time of the operation.

WALTER BURNHAM.

Lowell, April 1, 1859.

ATMOSPHERE OF THE MAMMOTH CAVE.

BY CHARLES W. WRIGHT, M. D., PROFESSOR OF CHEMISTRY IN THE KENTUCKY SCHOOL OF MEDICINE.

THE proportions of oxygen and nitrogen bear the same relation to each other in the Mammoth Cave that they do in the external air. The proportion of carbonic acid gas is less than that observed in the atmosphere of the surrounding country, upon an average of many observations. In the dry parts of the Cave the proportion is about 2 to 10,000 of air; in the vicinity of the rivers, something less. Not a trace of ammonia can be detected in those parts of the Cave not commonly visited. The amount of the vapor of water varies. Thus, in those avenues at a great distance from the rivers, upon the walls and floors of which there is a deposit of nitrate of lime, the air is almost entirely destitute of moisture, from the hygroscopic properties of that salt, and animal matter mummifies instead of suffering putrefactive decomposition. And for the same reason, no matter what state of division the disintegrated rock may attain, dust never rises. In portions of the Cave remote from the localities in which the bats hybernate, no organic matter can be recognized by the most delicate tests. Not a trace of ozone can be detected by the most sensitive re-agents.

From what has been stated, it will be observed that the atmosphere of the Mammoth Cave is freer from those substances which are calculated to exert a depressing and septic influence on the animal economy, than that of any other locality of the globe. This great difference is observed by every one on leaving the Cave, after having remained in it for a number of hours. In such instances the impurity of the external air is almost insufferably offensive to the sense of smell, and the romance of a "pure country air" is forever dissipated.

What diseases would be benefited, or rendered worse, by resorting to the Mammoth Cave?

Consumptives, at one time, resorted to the Cave, and, as might

have been anticipated, with fatal results. Several of them died there, and all of them soon after exposure to the external air. One patient did not see the light of the sun for a period of five months. Short trips are attended with advantage, but a cave residence is speedily fatal.

I know of no inflammatory disease that is rendered worse by a resort to the Mammoth Cave. On the contrary, short and easy trips have been known to effect a cure in chronic dysentery and diarrhœa, where all other measures had failed.

In all those diseases where absolute silence and the total exclusion of light are indicated, the Cave, above all other places, possesses pre-eminent advantages; for no where else have we those conditions combined. The only condition in which risk is incurred is during the menstrual period. Serious, and even fatal results have been the consequence of inattention to this fact.

The temperature of the Mammoth Cave is uniformly 59 degrees, winter and summer, which, in connection with the remarkable purity of its atmosphere, will account for the fact that individuals are enabled to undergo such an unusual amount of physical exertion in it. It is not an uncommon occurrence for a person in delicate health to accomplish a journey of twenty miles in the Cave, without suffering from fatigue, who could not be prevailed upon to walk a distance of three miles on the surface of the earth.

A CASE OF LACERATION OF THE SCROTUM.

BY J. BOWMAN, M.D., SISTERVILLE, VA.

Most cases in surgery are peculiar to themselves, any two being, seldom, just alike, more particularly those arising from accidents. Still, some of the readers of the *Lancet and Observer* may chance to meet with a similar case to the one I am about to relate; and to them it might be some satisfaction to learn what course had been pursued, with the result.

Case.—T. D., aged about ten years, fell from a runaway horse, 10th November, 1858. The horse struck him, apparently, first with the corks and nails of the shoe, on the left side, above the short ribs, leaving the parts much bruised and ecchymosed; while the other foot tramped him over the pubic region, lacerating the scrotal sac and prepuce in shreds or strips not more than from three to five lines in width, thus leaving both testes exposed; the dartos muscle and tunica vaginalis communis being completely dissected off from the right testicle, leaving only that portion of the tunica covering the spermatic cord, severing all the external pubic arteries, thus causing considerable hæmorrhage.

The question naturally arose, What could be the best course to pursue with the denuded testes? The first thought was to extirpate (which by the by, was the conclusion of some, who are es-

teemed excellent surgeons, on hearing of the case). But, having ascertained that the spermatic cords were entire, and also that the urethra and canal were still perfect, I concluded to form a sac for the testes from the perinæum and perinæal fascia, thus leaving the lacerated portions of the scrotum out entirely: knowing in all reason they must all slough away, and were they brought in to help form a part of the sac, it would only make a worse wound as soon as the slough would take place. Consequently, I placed the testes in as natural a position as possible, and drew up the fascia and skin in close approximation, at first, until I had entered some seven interrupted sutures there; by degrees placed some three upper ones in, at least half an inch longer than the first, thus leaving more room for the glands to play in; and, after forming as comely a member for a penis as the case would admit of, out of the lacerated portions of the covering skin of the urethra and prepuce, I dressed the wound with cold water applications. At two o'clock, P. M., and at eleven, P. M., the lad micturated freely and naturally, and continued to do so at intervals, with the exception of some little spasmodic disturbance, during the appearance of fungous growth in the wound while healing, and the urine dribbling over it caused some irritation. As I anticipated, all the scrotal sac sloughed away, although I had taken the utmost pains to draw all the strips together with sutures. I dressed the wound with the usual antiseptics during the sloughing process, prescribing the free internal use of wine and barks. The boy made a rapid recovery, and is, apparently, as healthy as ever.

The peculiarities in this case were, that the wound was some six inches in length, from pubic arch down, and, as above stated, the whole scrotal sac mutilated, torn into shreds and perfectly paralyzed, not the least sensation to touch, the needle passing through as though it were leather. Now, to form a safe position where the testes could be retained, was, to my mind, no small task; for, to the eyes and patience of the friends and bystanders, it was horrible; and every surgeon knows that at such a moment there is no time to consult books, and even in them I had not met with just such cases, for, as we remarked in the outset, nearly every accidental case in surgery is almost an isolated one, peculiar within itself. There may be some little confinement of the testes in adult life, but the restoration of a natural state of the parts is very wonderful, and certainly much better than extirpation of the testes.

Doctor N., from M——, and Dr. C., from W——, were invited to examine the condition of the parts after the wound was dressed. These gentlemen, who are experienced surgeons, acquiesced in the plan taken as being the best course that could have been pursued.—*Cincinnati Lancet and Observer.*

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY F. E. OLIVER, M.D., SECRETARY.

JANUARY 24th.—*Blighted Fœtus; its Expulsion at 7½ months.* Specimen shown by Dr. JACKSON, and case reported by Dr. HOMANS.

Mrs. M. menstruated for the last time on the first of June last. Had symptoms of pregnancy, as morning sickness, sensation in the mammæ, itching, &c. These lasted about 6 weeks, and, after ceasing, were followed by pains in the gums, and headache, and sometimes severe neuralgic pains. In the course of 2 or 3 weeks they left her. On the first of October she had increased in size around the waist and over the pelvis, though her frame had not spread as much as in former pregnancies. After this she did not grow larger. She had not felt motion, nor did she feel any through the course of gestation. She enjoyed her usual health, and walked and worked. On the 9th inst. (Jan., 1859), had a discharge of fluor-albus sometimes slightly tinged with blood, and felt slight pains in the back, and weakness, but kept about as usual until Friday last (Jan. 21st), when she had anorexia, slight pains in the back, and at 3 o'clock the fœtus, enveloped in membranes, was expelled, attended with profuse flowing, which soon subsided. On Sunday (yesterday), pains came on with considerable tenderness in the lower part of the abdomen, but to-day she is comfortable. It may be added that after the birth of her last child, 13 months since, which was still-born, sudden and dangerous hæmorrhage ensued. It should have been stated, however, that no hæmorrhage occurred during her pregnancy, nor any circumstance likely to cause the blighted condition of the fœtus, which probably weighed, with placenta, about 6 ounces.

The fœtus was 9 inches in length, had the usual macerated appearance and also the kirronosis which is so frequently found in these cases.

FEBRUARY 28th.—*Urethra-Vesico-Vaginal Fistula.* Case reported by Dr. CABOT.

The patient, L. G., aged 28 years, married, a native of Vermont, entered the Hospital Jan. 21, 1859, with urethro-vesico-vaginal fistula of 6 months standing. She was a stout robust woman; 7 months ago she was delivered of her first child, having been four days in labor. The head of the child was delivered 12 hours before the body came away. Three years ago she fell down stairs, striking on the sacrum. The os coccyx was probably broken, as it was now firmly fixed in front of its proper place. She has had pain in the part ever since.

A month after her confinement, she noticed the fistula. Dr. Cabot found the meatus obliterated, and the opening about the neck of the bladder a quarter of an inch in diameter.

24th.—*Operation.* As the fistula was as it were at the bottom of a depression of which the urethral portion formed the nearest, and the vesical neck the more distant slope, the operation was commenced by forcing a small catheter through the closed urethra and thence passing it into the bladder; the mucous membrane was then removed from the two antagonizing slopes of the depression; and the raw surfaces connected by removing the healed surface on each side of what had been the junction of the urethra with the bladder, without meddling at all with the immediate edge of the fistula. Needles threaded with fine

silver wire were then passed through from the urethral side and brought out on the vesical side of the depression. Two of these were on the posterior face of the urethra, and one on each side, so as to draw the whole gap together. The two ends of each wire were then brought together, and passed through holes in a shield made of thin gutta percha, and perforated shot were slipped down and secured by nipping and clenching the wires. The metallic catheter was then removed and an elastic one substituted, and the patient placed in a prone position.

The reasons for using the gutta percha were that it could be fitted on the spot as might be necessary, and more particularly because being flexible it conformed itself to the catheter without nipping the tissues between.

The following is the Hospital record of the case subsequent to the operation.

Jan. 28th.—Catheter renewed. Some soreness about fistula.

Jan. 30th.—Sutures removed. No ulceration. Union seemed perfect. Water passed freely through the catheter. No bad symptoms. Soreness much diminished.

Feb. 1st.—Catheter renewed. Water passed freely.

Feb. 5th.—Catheter renewed. Doing well.

Feb. 9th.—Catheter renewed. No urine escapes.

Feb. 13th.—Catheter was removed and not re-inserted. Was covered with hard knotty concretions.

Feb. 15th.—Can retain water for a short time. All passes by urethra. Can sit up.

Feb. 16th.—Can force a stream into a vessel 6 inches distant. Retains water for several hours. No dribbling. Goes away for a week on a visit.

Feb. 23d.—Returned to-day. On examination, fistula was entirely closed with firm cicatrix. Has no trouble in holding and passing urine.

March 14th.—*Flexor Muscle of Index Finger forcibly drawn out.* Dr. Jackson showed the specimen, which he had lately received from Mr. Ezra Dyer, one of the House-Surgeons of the Hospital; and gave the following account of the case. A lad, aged 13 years, fell violently forward, and struck his hand upon a nail, which caused an extensive lacerated wound of the palm and drew out the muscle referred to from the fore-arm, but did not detach the tendon. Mr. D. found the muscle lying in the wound. The tendon was cut away from the finger, and the boy did perfectly well; the wound having nearly healed in two weeks.

Dr. J. remarked that though several cases had occurred here in which a portion of a finger had been torn off and the muscle drawn out, he had never before heard of one like the above. The rapid and easy recovery has been the invariable rule, so far as he has known.

Medical Changes in Chicago.—Professors Johnson, Davis and Byford have withdrawn from the faculty of Rush Medical College. Their successors have not yet been appointed. Dr. Davis has also resigned the editorship of the *Chicago Medical Journal*, the duties of which have been assumed by Dr. Daniel Brainard.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, APRIL 14, 1859.

THE TREATMENT OF CANCER.—CANCER-QUACKS.

An unusual amount of attention has been given of late to certain methods of treating cancerous disease, and there now seems to be an evident leaning, in many quarters, toward the employment of escharotics with more frequency than for some time past. While the circumstances of each particular case must modify the procedure of the surgeon, it seems well to use the approved caustics in those instances, and in those particular species of cancerous growth, where the size and form, as well as the nature of the morbid product, admit of the practice. Locality must always have a vast deal of influence in deciding the practitioner as to the peculiar measure he should adopt. He would be more loth, we conclude, to apply escharotics to facial cancer, of whatever description, than he would to other regions of the body. Cancerous growths about the mouth, for instance, are far more properly treated by direct excision, than by caustics. In ordinary epithelial cancer of the lip, the knife is usually remarkably successful.

We are partly induced to refer to this subject—which is always one of great interest to the surgeon, and any improvements in which are of such vital importance to the sufferers from this terrible disease—on account of having had several instances brought under our personal observation, where the direst and entirely irremediable mischief has been done to the patient by medical pretenders. These harpies of society never have it in their power to do more downright injury to their unhappy victims, than when a veritable case of cancer is entrusted to their ignorant management. We say when a *genuine case is entrusted* to them—for a great majority of the so-called cancer cases which quacks report as being under their care, are either pure fabrications, or else not cancer at all. Every ordinary glandular or other benign tumor which they secure for treatment, is trumpeted as cancer—"an enormous cancer"—"a large rose-cancer with extensive roots," &c. &c. Of this wholesale lying we have occasionally had proof—and in one instance, not long ago, when the merest tyro in medicine and surgery would have known better, a simple fatty tumor was pronounced, by a high-priest of "Indianopathy" in this city, to be a dangerous cancerous growth! And yet this class of piratical practitioners are able to parade a long list of names of "Reverend" gentlemen at the foot of their lengthy advertisements—interspersed, now and then, with the names of fabricators of surgical appliances; and in one instance, of one such, who has been—more 's the pity, we think—liberally patronized by our profession.

But matters are far worse when such impostors are bold and bad enough to undertake the management of a case of *bona fide* cancer; and it is truly wonderful how any one with the amount of evidence which every honest medical man could easily lay before him, can be hardy enough to run into such peril as to trust them. The more brazen-faced the quackery, however, the more eagerly it seems to be embraced; and not only are the chief agents in the knavery to be condemned, but

also the editors of all such newspapers, as, for filthy lucre's sake, give up column after column to their mendacious advertisements. We are sorry to say that we have such, in this city—to their everlasting disgrace be it spoken.

A most painful instance of mal-practice—after the "Indian Doctor" method—lately came to our knowledge. The case is such, as, in the opinion of good legal judges, would render the parties who practised upon the patient, amenable to the heaviest damages, did the injured person or his friends choose to move in the matter—and this may yet be done. A few additional similar cases would, if exposed, be sufficient, without legal process, to break up the iniquitous dens whence these wrongs emanate.

The instance to which we have just referred, was originally one of facial cancer, of small extent, and perfectly amenable to treatment by excision. This measure was advised by a skilful surgeon of this city; but the deluded patient, being over-persuaded by some of his so-termed *friends*, placed himself under an "Indian Doctor," established near the centre of the city; and in consequence of his tampering with the disease, has gradually been reduced to an incurable condition. Nearly one half of the face being destroyed, in this patient, it is easy to conceive of the deplorable state he is in, and the vain regrets he and his friends must feel in view of the cause thereof. There was every reason to presume that a definitive cure would have been the result, had the advice of the surgeon referred to been followed.

Not to add, at present, to the catalogue of horrors for which cancer-quacks are answerable—by the aid of human weakness and credulity—we will for a moment again refer to the use of caustics.

The chloride of zinc enjoys a well-deserved reputation for the purpose of enucleating cancerous or epithelial growths. This is especially mentioned, of late (March 12, 1859), by a correspondent of the *Lancet*—Mr. Wordsworth, Assistant Surgeon to the London Hospital, and to the Royal London Ophthalmic Hospital. In one part of his communication, he remarks:—"it may be said that chloride of zinc will answer almost every purpose for which escharotics are employed:" and he believes that a sufficient trial of it "will lead others to the same conclusions which he has formed of its great superiority over all other potential cauteries." In another place, he says, comparing the actual and potential cautery:—

"In many instances, the application of the 'actual cautery' is not so convenient as that of the 'potential' ones. Under such circumstances, I believe none can be more effectively and certainly used than the chloride of zinc. It can be managed with the greatest precision, and so regulated as to produce a slough of the thickness of brown paper, or, if desired, of half an inch in depth. Its use is adapted for those cases in which it is desired to arrest a morbid action; as, for instance, the varied forms of phagedæna, or other specific ulcerations, in which a *superficial* slough only is required; or for the enucleation of cancerous or epithelial growths, in which the surface is ulcerated, and from their extent, or some other condition, the knife is inadmissible. Its effect is far more extensive than that of the acids, and, with a little care, can be easily circumscribed. Several years ago, the writer was induced to combine it with oxide of zinc as a convenient vehicle for diluting, and applying it to a sore.

"Experience has amply proved the advantages which this combination possesses over those commonly recommended, such as flour or plaster-of-Paris; for while with the oxide it remains as a *powder* easy of application, so as to produce a certain and uniform result, with the latter means it forms a *paste* of some consistence, and becomes much less manageable. The oxide also possesses the peculiar

quality of protecting the chloride from deliquescence, and so allows it to be kept for a considerable (if not indefinite) period, and the mixture is always ready for use."

In perusing Mr. Pemberton's late work on melanotic cancer, we observe that he is strongly in favor of the use of caustic in that particular form of the disease; indeed, he terminates his volume with a recommendation to employ escharotics mainly, or at least to bring them to the aid of the knife, believing the results of such a practice to be more encouraging than those secured by pure excision. The use of the cautery and of caustics is so greatly facilitated by anæsthetics, that they may often be advantageously employed, where in former times they would not have been deemed admissible—or where doubts might have been reasonably entertained whether their application could have been endured.

New Work on Gonorrhœa and Syphilis.—We are gratified to be able to announce that a work upon Gonorrhœa and Syphilis, which has long been in the process of careful elaboration by its author, Dr. Silas Durkee, of this city, is now rapidly passing through the press. We have had the opportunity of perusing the manuscript, and have no hesitation in declaring that the volume will be eminently a useful and practical one. It is, moreover, written in a style at once easy and accurate; and its information is up to the recognized standard of our day in regard to the interesting and important class of affections of which it treats.

Whilst we have several voluminous works upon these subjects, from the best authorities, they either constitute *arcana* for reference, chiefly, or are so encumbered with theories and the consideration of many conflicting opinions, that they cannot be used as *hand-books* for the exigencies of daily practice. This end, however, we think is eminently attained in the book which Dr. Durkee is about to present to the profession. His large and varied experience, for many years, in the treatment of these maladies, and his well-known accuracy of observation and truthfulness in narration, will make his work one of great value, both to students and practitioners. We confidently predict for it a wide circulation, and feel that its teachings will be of the most reliable nature.

The book will be handsomely illustrated, and issued by Mr. J. P. Jewett, one of the best known and most successful publishers of our city.

Amputation at the Hip-Joint.—The *Chicago Medical Journal*, in announcing the performance of this operation by Dr. Brainard, quotes from Dr. Paul F. Eve the statistics concerning it in this country. It appears that amputation at the hip-joint has been done six times in the United States, four times successfully. In one other case, the patient recovered, but died subsequently from a return of the disease, which was enchondroma; and in one case the result is not stated. Dr. Brainard's case, which makes the seventh, was unsuccessful. Dr. Warren performed this operation more than a fortnight ago on a lad, 17 years of age, who will in all probability recover. The particulars of the case will be reported in a future number of the Journal.

Death of Dr. Cutler, of Pepperell.—At the regular monthly meeting of the Middlesex North District Medical Society, held in Lowell, March

30th, the death of Dr. Nehemiah Cutter being announced, a committee of three was appointed to present resolutions as an expression of respect. Drs. J. C. Dalton and N. Allen, of Lowell, and J. M. Stickney, of Pepperell, were chosen said committee, who presented the following resolutions, which were unanimously adopted, and voted to be published.

JOHN W. GRAVES, *President.*

JONATHAN BROWN, *Secretary.*

Resolved, That the members of this Society learn, with sincere regret, the sudden death, on the 15th inst., of Dr. N. Cutter, their fellow associate and first President.

Resolved, That his zealous and untiring devotion to the duties and interests of the medical profession, for nearly fifty years, his persevering efforts to alleviate the sufferings of the insane, as well as to promote the cause of education and temperance in the place of his residence, deserve our hearty commendation.

Resolved, That while we shall hereafter miss his uniform presence at our meetings, as well as his genial spirit in professional intercourse, we rejoice to learn that his last illness was characterized with so little suffering, and that he was able to meet death with so much composure and resignation, being sustained by the consolations of that religion which he so long professed.

Dr. Brown-Séquard in England.—The course of lectures by this distinguished physiologist before the College of Surgeons, in London, were received with the highest appreciation, and he has been invited to deliver a course in Glasgow, in Edinburgh and in Dublin. We learn that Dr. Séquard has discovered a new means of producing anæsthesia. As the method has not been tried upon the human subject, it is not yet to be made known. It will, however, doubtless be made public in a short time. Several interesting subjects will be discussed by Dr. Séquard in his new courses of lectures, particularly those of animal heat, and its relation to the effect of poisons, the subject of asphyxia, and criticisms on the methods of treatment suggested by Marshall Hall, Faure and Sylvester.

Health of the City.—Although the mortality continues low, the number of deaths from scarlatina (6) is unusually large. There were 7 deaths from "dropsy in the head," which under a proper registration law would probably be distributed under two or more heads. Among the causes of disease are enumerated, besides apoplexy, "disease of brain," "inflammation of brain" and "convulsions." There are recorded deaths from "disease of bowels," "debility," "dropsy," "scrofula," "ulcers," and "infantile diseases," but there was only one victim under the head of unknown diseases! Of what value are such returns in a statistical point of view? More than one third of the deaths (27) were of subjects under 5 years of age.

Communications Received.—Obstruction of the Right Axillary Artery by a Fibrous Concretion.—Letter from Dr. Bauer.—Cases of Ulceration of the Cornea.—Cases of Chronic Inversion of the Uterus.—American Improvements in the Operation for Vesico-Vaginal Fistula.

DIED,—In this city, 5th inst., Dr. Shelomith S. Whipple, 64 years, 10 months.—At Dracut, 6th inst., Dr. Israel Hildreth.

Deaths in Boston for the week ending Saturday noon, April 9th, 63. Males, 32—Females, 31.—Accident, 2—apoplexy, 2—congestion of the bowels, 1—ulcers of the bowels, 1—inflammation of the brain, 1—disease of the brain, 1—consumption, 10—convulsions, 1—croup, 1—diabetes, 1—dropsy, 3—dropsy in the head, 7—debility, 2—infantile diseases, 3—puerperal, 1—erysipelas, 2—scarlet fever, 6—haemorrhage, 1—insanity, 1—disease of the kidneys, 1—inflammation of the lungs, 2—congestion of the lungs, 2—old age, 1—pleurisy, 1—premature birth, 1—scrofula, 1—sore throat, 1—suicide, 1—teething, 2—tetanus, 1—unknown, 1—whooping cough, 1.

Under 5 years, 26—between 5 and 20 years, 6—between 20 and 40 years, 10—between 40 and 60 years, 11—above 60 years, 10. Born in the United States, 45—Ireland, 12—other places, 6.